

ABSTRACT

A structure and a fabrication method for  
5 metallurgical connections between solder bumps and contact pads positioned on integrated circuits (IC) having copper interconnecting metallization protected by an overcoat. The structure comprises a portion of the copper metallization exposed by a window in the overcoat, where  
10 the exposed copper has a chemically and plasma cleaned surface. A copper layer is directly positioned on the clean copper metallization, and patterned; the resulting metal structure has an electrical (and thermal) conductivity about equal to the conductivity of pure  
15 copper. The copper layer overlaps the perimeter of the overcoat window and a copper stud is positioned on said copper layer. Finally, one of the solder bumps is bonded to the copper stud.

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